# ADHESIVE COATED SEWING THREAD


## REFERENCES CITED


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| 6,503,623 | Jan., 2003 | Oue, et al. |
| 6,251,210 | Jun., 2001 | Bullock, et al. |
| 6,127,028 | Oct., 2000 | Sandor, et al. |
| 5,869,182 | Feb., 1999 | Ebert, et al. |
| 5,436,075 | Jul., 1995 | Sawko |
| 5,128,054 | Jul., 1992 | Chakravarti |


## CROSS-REFERENCE TO RELATED APPLICATIONS

Not Applicable

## STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH

Not Applicable

## REFERENCE TO SEQUENCE LISTING, A TABLE, OR A COMPUTER PROGRAM LISTING COMPACT DISK APPENDIX

Not Applicable

## FIELD OF THE INVENTION

The invention relates to coating sewing thread with a thermally activated adhesive.

## BACKGROUND OF THE INVENTION

Loose threads on garments and other textiles diminish the quality and reduce the lifetime of a garment or textile. In the last ten years, advances in treating thread and yarn have solved the problem of textile disintegrating by treating the textile as a whole with adhesive, coating thread with polymers that increase the volume of the thread and when heated decrease the thread to its original volume, tightening the stitching.

Patent #5,869,182 by Ebert, describes coating sewing thread with different polymers, with the intention of increasing the volume of the thread. When heated, the polymer evaporates and the

threads shrink, tightening the stitching. While Ebert mentions and includes polymers having adhesive properties, the patent is coating the thread with the intention of increasing the thread volume rather than coating the thread with a thermal set adhesive.

Patent #6,251,210 by Bullock, describes treating textiles with adhesive, along with other compounds. Though the patent covers treating textiles with adhesive materials, it is oriented towards treating the woven textile rather than the individual threads before the textile is sewn.

Other patents relating to the art of treating thread and yarn include increasing strength and elasticity, altering the thermodynamic properties to allow for a larger temperature range, and increasing resistance to cutting. None of these patents, as well as others retrieved in text and title searches, are the same as the present invention.

## BREIF SUMMARY OF THE INVENTION

This invention is to coat thread with an adhesive material before sewing, either wrapping it around a spool or applying it between the spool and sewing needle. When the textile is sewn adjacent threads on a textile stick together as the adhesive material is activated. To avoid threads adhering together when spooled, the adhesive material must be thermally activated, such as epoxy or another thermal set plastic.

## BREIF DESCRIPTION OF THE DRAWINGS

Not Applicable

## DETAILED DESCRIPTION OF THE INVENTION

The present invention is coating a sewing thread with a thermally activated adhesive that is inactive until heated and set when cooled. The adhesive can be permanently set when cooled, or it can be reactivated every time it is heated above the threshold temperature for the adhesive and reset when cooled.

Preferably, the adhesive should be a partially cured thermal set plastic, such as epoxy, so the adhesive used cured by cross linkage does not reactivate when the garment or textile is heated in

a domestic dyer or when dry cleaned commercially. If the adhesive can be reactivated thermally, the activating temperature should be higher than temperatures the garment or fabric will encounter during cleaning or normal use, while at the same time being low enough to not damage the thread when the adhesive is initially activated.